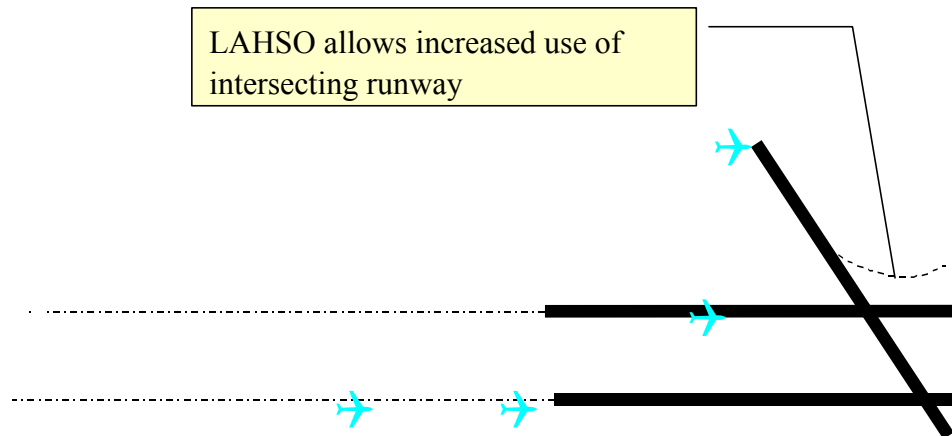


AD-2: Use Crossing Runway Procedures

Land and Hold Short Operations increase use of crossing runways.



Background

Simultaneous Operations on Intersecting Runways (SOIR), either two simultaneous landings or one airplane landing while another was taking off, have been applied under specific waivers to increase airport capacity since 1968. To increase efficiencies for intersecting runway operations, the FAA changed some procedural conditions for conducting SOIR and renamed the program Land and Hold Short Operations (LAHSO). Throughout development of the LAHSO program, users expressed concerns about the safety of conducting LAHSO and associated procedures. In 1997, after the FAA published Order 7110.114, “Land and Hold Short Operations (LAHSO), three major pilot organization, ALPA, APA, and SWAPA launched a vigorous campaign against conducting LAHSO operations as outlined in the order. In April of 1998 the FAA and Industry reached agreement on a number of issues and implemented new procedures for continuance of LAHSO at a number of airports nation wide. The new procedures are based on more critical assumptions and are more restrictive causing significant impact to operations at a number of locations. Pilot organizations were most critical on issues related to safe separation for pilot rejected landings. The FAA, with industry support, attempted to develop and publish “rejected landing procedures” to provide conflict resolution, but test and analysis indicated that the procedures could not guarantee an appropriate level of safety, while conducting independent operations between two intersecting runways. However, data supports a dependent separation procedure that is both safe and offers increased efficiency.

Ops Change Description

LAHSO procedures will improve throughput at airports with intersecting runways. Immediate relief can be provided where dependent operations can be conducted, while analysis of independent procedures continues. LAHSO will be used more widely as more pilots are trained and as compatible procedures are developed for rejected landings and as eligibility criteria are expanded. The expansion will include dependent and independent operations.

Benefits, Performance and Metrics

- LAHSO adds arrival capacity approaching levels for a dependent runway, but will vary with location and airport configuration. It provides up to 10% increase in throughput.

Scope and Applicability

- Changes in LAHSO procedures caused decreased usability, impacting throughput at airports nation wide. Currently, LAHSO is limited to airports where a dependent method of operations exists, or can be identified to support rejected landing procedures.
- Users must collaborate with FAA Air Traffic Procedures to define procedures to make more aircraft types or intersecting runways eligible for LAHSO operations.
- Independent operations using rejected landing procedures are not currently supported based on the safety analysis.
- Extensive analysis is required to prove reasonable assumptions for conducting independent intersecting operations. The study must account for aircraft performance characteristics, wet pavement, general aviation and air carrier mixed operations, and multiple stop locations per runway.

Key Decisions

- Concurrence by all stakeholders on safety analysis, approach, and assumptions.
- Established criteria for dependent and independent operations.
- Identification of additional sites for dependent applications and candidates for independent operations.
- Pilot and controller acceptance of roles and responsibilities. The scientific determination of roles and responsibilities through the process of study and analysis needs to involve both pilots and controllers groups. This involvement allows technical input, addressing human factors issues, from both groups to be use in mitigating workload and other safety issues. Participation will demonstrate first hand the significance of how assigning specific responsibilities are based on safety considerations and the ability to identify appropriate tools for pilot or controller to accomplish any task associate with LAHSO.

Key Risks

- Studies do not validate meeting the operational safety requirements.
- Non-acceptance of roles and responsibilities by controllers or pilots.
- Business Case does not support resources based on other program priorities.